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2004

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7-20-2004

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This is the abstract of a presentation given on Tuesday, 20 July 2004, in session 16 of the UCOWR conference.

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### Recommended Citation

Cosgrove, Johnson, "The Water Rights Transfer Tool: a Tool for Evaluating the Impacts to River Reaches due to Water Rights Transfers" (2004). 2004. Paper 77.

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## ABSTRACT

### The Water Rights Transfer Tool: A Tool for Evaluating the Impacts to River Reaches due to Water Rights Transfers

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New ground water appropriations in most locations in southern Idaho are closed, creating an increased need for transfers of ground water rights among users. It is recognized, however, that a transfer in the pumping location results in changes in depletion effects on springs and the Snake River. In some areas, surface water depletion will be increased and water users and aquatic species habitat will be adversely impacted. Recognizing the need to identify and mitigate impacts, the Idaho Department of Water Resources contracted the University of Idaho/Idaho Water Resources Research Institute to develop a tool for evaluating the impacts to surface water resources due to transfers of points of diversion of ground water rights. The tool is based on response function theory, with response functions generated using the calibrated eastern Snake River Plain aquifer model and was implemented with a user interface in Microsoft EXCEL. The Transfer Tool is currently being used by the IDWR to evaluate the impacts of water rights transfers and, where necessary, to develop mitigation strategies for increased impacts due to transfers. With use of the Water Rights Transfer Tool, Idaho is actively engaging hydrologic science in the management of ground- and surface-water resources.

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